

CHARTER COMMUNICATIONS INC.,
v.
IARNACH TECHNOLOGIES LIMITED

Iarnach's Trial Presentation

IPR2024-01287
US Patent No. 9,287,982

November 20, 2025

Outline

The '982 Patent

Key Points

- The '982 Patent Invention
- Legal Background
 - The Petition Must Be Specific; The Reply Cannot Raise New Grounds
- Grounds 1 and 2 (Bernstein)
 - The Petition Failed To Address Every Claim Element
- Grounds 3 and 4 (Tsuge)
 - The Petition Failed to Address Every Claim Element

Outline

The '982 Patent

Key Points

- **The '982 Patent Invention**
- Legal Background
 - The Petition Must Be Specific; The Reply Cannot Raise New Grounds
- Grounds 1 and 2 (Bernstein)
 - The Petition Failed To Address Every Claim Element
- Grounds 3 and 4 (Tsuge)
 - The Petition Failed to Address Every Claim Element

'982 Patent Invention

Therefore, in order to operate the service, the corresponding numerous configurations which are required to be performed on the OLT of the DPOE system are relative complex, and this way of configuring the ONU and the OLT respectively has low configuration efficiency. Especially, the configuration efficiency of the whole system is affected even more when more complex configurations need to be performed on the OLT correspondingly for the key service operation on the ONU.

EX1001 at 2:38-47

The technical problem required to be solved by the present document is to provide a DOCSIS Provisioning Of EPON (DPOE) system and a service auto-configuration method and network based on that system, to make the service be opened without performing further configuration to the OLT individually after the process of the ONU initialization is completed, so as to improve the configuration efficiency of the whole system.

EX1001 at 2:51-58; POR at 5-9

(12) **United States Patent**
Zang et al.

(10) Patent No.: **US 9,287,982 B2**
(45) Date of Patent: **Mar. 15, 2016**

(54) DPOE SYSTEM AND SERVICE
AUTO-CONFIGURATION METHOD AND
NETWORK BASED THEREON

(75) Inventors: **Meiyuan Zang**, Shenzhen (CN); **Liquan Yuan**, Shenzhen (CN); **Chaoqin Zhang**, Shenzhen (CN)

H04J 14/0239; H04J 14/0242; H04J 14/0243;
H04J 14/0245; H04J 14/0246; H04J 14/0247;
H04J 14/025; H04J 14/0252; H04J 14/0249
USPC 398/71, 70, 72, 66, 58
See application file for complete search history.

(73) Assignee: **ZTE CORPORATION**, Shenzhen (CN)
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(h) by 168 days.

U.S. PATENT DOCUMENTS

8,023,820 B2 *	9/20/11	Bernard		H04J 3/1694
				398 66

(Continued)

(21)	Appl. No.:	14/009,703
(22)	PCT Filed:	Mar. 20, 2012
(86)	PCT No.:	PCT/CN2012/072633

N	101741712	6/2010
N	101888575 A	11/2010

§ 371 (c)(1),
(2), (4) Date: **Oct. 3, 2013**
(87) PCT Pub. No.: **WO2012/139453**
PCT Pub. Date: **Oct. 18, 2012**

(Continued)

OTHER PUBLICATIONS

International Search Report mailed Jun. 28, 2012 in International Application No. PCT/CN2012/072633.

(Continued)

(65) **Prior Publication Data**
US 2014/0023366 A1 Jan. 23, 2014

(30) **Foreign Application Priority Data**

Primary Examiner — M. R. Sedghian
4) Attorney, Agent, or Firm — Plumsea Law Group, LLC
7)

Apr. 13, 2011 (CN) 2011 1 00921130

(51) Int. Cl.
H04J 14/00 (2006.01)
H04B 10/27 (2013.01)

DPOE system and a service auto-configuration method and network based on that system are provided, wherein, the DPOE system includes an acquisition unit, an analyzing unit and a configuration unit; the service auto-configuration network includes a DPOE system, a back-office management system and an ONT; the system is configured in method

(52) U.S. Cl.
CPC **H04B 10/27** (2013.01); **H04L 12/4641**
(2013.01); **H04L 41/04** (2013.01);
(Continued)

used on that system includes: the DPOF system acquiring a configuration file from the back-office management system, wherein the configuration file includes configuration information of the ONU and configuration information of an OLT; the DPOF system; the DPOF system analyzing the con-

(58) **Field of Classification Search**
CPC H04B 10/27; H04B 10/271; H04B 10/272;
H04B 10/275; H04B 10/2755; H04B 10/278;
H04L 12/24; H04L 12/4641; H04L 41/04;
(Continued)

the ONU and the configuration information of the OLT; configuring the OLT locally and configuring the ONU via the management channel between the OLT and the ONU. Thus the service can be opened without performing further con-

H04J 41/0806; H04L 41/0226; H04L 61/2015; H04Q 11/00; H04Q 11/0067; H04J 14/023; H04J 14/0232; H04J 14/0238;

11 Claims, 3 Drawing Sheets

Block office management system

Q42 Q43

\$401. CBE is provided up

\$403. Discovery provisions of NPSY, GAAI and PAAAI

Year	Number of cases	Percentage of cases
1995	14 (3.0%)	3.0%
1996	15 (3.1%)	3.1%
1997	16 (3.2%)	3.2%
1998	17 (3.3%)	3.3%
1999	18 (3.4%)	3.4%
2000	19 (3.5%)	3.5%
2001	20 (3.6%)	3.6%
2002	21 (3.7%)	3.7%
2003	22 (3.8%)	3.8%
2004	23 (3.9%)	3.9%
2005	24 (4.0%)	4.0%
2006	25 (4.1%)	4.1%
2007	26 (4.2%)	4.2%
2008	27 (4.3%)	4.3%
2009	28 (4.4%)	4.4%
2010	29 (4.5%)	4.5%
2011	30 (4.6%)	4.6%
2012	31 (4.7%)	4.7%
2013	32 (4.8%)	4.8%
2014	33 (4.9%)	4.9%
2015	34 (5.0%)	5.0%
2016	35 (5.1%)	5.1%
2017	36 (5.2%)	5.2%
2018	37 (5.3%)	5.3%
2019	38 (5.4%)	5.4%
2020	39 (5.5%)	5.5%
2021	40 (5.6%)	5.6%
2022	41 (5.7%)	5.7%
2023	42 (5.8%)	5.8%
2024	43 (5.9%)	5.9%
2025	44 (6.0%)	6.0%
2026	45 (6.1%)	6.1%
2027	46 (6.2%)	6.2%
2028	47 (6.3%)	6.3%
2029	48 (6.4%)	6.4%
2030	49 (6.5%)	6.5%
2031	50 (6.6%)	6.6%
2032	51 (6.7%)	6.7%
2033	52 (6.8%)	6.8%
2034	53 (6.9%)	6.9%
2035	54 (7.0%)	7.0%
2036	55 (7.1%)	7.1%
2037	56 (7.2%)	7.2%
2038	57 (7.3%)	7.3%
2039	58 (7.4%)	7.4%
2040	59 (7.5%)	7.5%
2041	60 (7.6%)	7.6%
2042	61 (7.7%)	7.7%
2043	62 (7.8%)	7.8%
2044	63 (7.9%)	7.9%
2045	64 (8.0%)	8.0%
2046	65 (8.1%)	8.1%
2047	66 (8.2%)	8.2%
2048	67 (8.3%)	8.3%
2049	68 (8.4%)	8.4%
2050	69 (8.5%)	8.5%
2051	70 (8.6%)	8.6%
2052	71 (8.7%)	8.7%
2053	72 (8.8%)	8.8%
2054	73 (8.9%)	8.9%
2055	74 (9.0%)	9.0%
2056	75 (9.1%)	9.1%
2057	76 (9.2%)	9.2%
2058	77 (9.3%)	9.3%
2059	78 (9.4%)	9.4%
2060	79 (9.5%)	9.5%
2061	80 (9.6%)	9.6%
2062	81 (9.7%)	9.7%
2063	82 (9.8%)	9.8%
2064	83 (9.9%)	9.9%
2065	84 (10.0%)	10.0%
2066	85 (10.1%)	10.1%
2067	86 (10.2%)	10.2%
2068	87 (10.3%)	10.3%
2069	88 (10.4%)	10.4%
2070	89 (10.5%)	10.5%
2071	90 (10.6%)	10.6%
2072	91 (10.7%)	10.7%
2073	92 (10.8%)	10.8%
2074	93 (10.9%)	10.9%
2075	94 (11.0%)	11.0%
2076	95 (11.1%)	11.1%
2077	96 (11.2%)	11.2%
2078	97 (11.3%)	11.3%
2079	98 (11.4%)	11.4%
2080	99 (11.5%)	11.5%
2081	100 (11.6%)	11.6%
2082	101 (11.7%)	11.7%
2083	102 (11.8%)	11.8%
2084	103 (11.9%)	11.9%
2085	104 (12.0%)	12.0%
2086	105 (12.1%)	12.1%
2087	106 (12.2%)	12.2%
2088	107 (12.3%)	12.3%
2089	108 (12.4%)	12.4%
2090	109 (12.5%)	12.5%
2091	110 (12.6%)	12.6%
2092	111 (12.7%)	12.7%
2093	112 (12.8%)	12.8%
2094	113 (12.9%)	12.9%
2095	114 (13.0%)	13.0%
2096	115 (13.1%)	13

For a full description of the competition, please refer to the "Competition" section of the prospectus. For a full description of the competition, please refer to the "Competition" section of the prospectus. For a full description of the competition, please refer to the "Competition" section of the prospectus.	Charter Communications, Inc. Charter Communications, Inc. Technologies, Ltd.
--	---



1000

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

4

Claim 1

1. A service auto-configuration method of a DOCSIS Provisioning Of EPON (DPOE) system, comprising:
the DPOE system acquiring a configuration file from a back-office management system, wherein the configuration file comprises both configuration information of an optical network unit (ONU) and configuration information of an optical line terminal (OLT) in the DPOE system;
the DPOE system analyzing the acquired configuration file, and obtaining both the configuration information of the ONU and the configuration information of the OLT; and

the DPOE system configuring the OLT locally according to the configuration information of the OLT and meanwhile configuring the ONU according to the configuration information of the ONU via a management channel between the OLT and the ONU;
wherein, the method is performed in a process of ONU initialization; and
wherein, when analyzing the acquired configuration file, the DPOE system further converts the configuration information of the ONU into a message format which can be identified by the ONU, and converts the configuration information of the OLT into a message format which can be identified by the OLT.

Claims 4 & 5

4. A data over cable service interface system (DOCSIS) Provisioning Of EPON (DPOE) system, comprising an acquisition unit, an analyzing unit and a configuration unit; wherein, during an process of an optical network unit (ONU) initialization,

the acquisition unit is configured to acquire a configuration file from a back-office management system, wherein the configuration file comprises configuration both information of the ONU and configuration information of an optical line terminal (OLT) in the DPOE system; the analyzing unit is configured to analyze the acquired configuration file and obtain both the configuration information of the ONU and the configuration information of the OLT; and

the configuration unit is configured to configure the OLT locally according to the configuration information of the OLT and meanwhile configure the ONU according to the configuration information of the ONU via a management channel between the OLT and the ONU.

5. The system according to claim 4, wherein, the analyzing unit is further configured to, when analyzing the acquired configuration file, convert the configuration information of the ONU into a message format which can be identified by the ONU and convert the configuration information of the OLT into a message format which can be identified by the OLT.

Claim 6

6. A service auto-configuration network of a DOCSIS Provisioning Of EPON (DPOE) system, comprising a DPOE system, a back-office management system and a plurality of optical network units (ONUs); wherein, the DPOE system comprises an acquisition unit, an analyzing unit and a configuration unit; wherein, during an process of an optical network unit (ONU) initialization, the acquisition unit is configured to acquire a configuration file from a back-office management system, wherein the configuration file comprises configuration both information of the ONU and configuration information of an optical line terminal (OLT) in the DPOE system;

the analyzing unit is configured to analyze the acquired configuration file and obtain both the configuration information of the ONU and the configuration information of the OLT; and the configuration unit is configured to configure the OLT locally according to the configuration information of the OLT and meanwhile configure the ONU according to the configuration information of the ONU via a management channel between the OLT and the ONU; and the back-office management system is configured to: save the configuration file, and download the configuration file to the DPOE system, wherein the configuration file comprises the configuration information of the ONU and the configuration information of the OLT in the DPOE system.

Dependent Claims 2, 7-9, 11

2. The method according to claim **1**, wherein, the configuration information of the OLT is configuration information related to services opened by the ONU.

7. The network according to claim **6**, wherein, the back-office management system comprises a trivial file transfer protocol (TFTP) server configured to: receive a TFTP request initiated by the DPOE system, respond to that TFTP request, and download the configuration file to the DPOE system.

8. The network according to claim **7**, wherein, the configuration information of the OLT is configuration information related to services opened by the ONU.

9. The network according to claim **6**, wherein, the configuration information of the OLT is configuration information related to services opened by the ONU.

11. The network according to claim **6**, wherein, the analyzing unit is further configured to, when analyzing the acquired configuration file, convert the configuration information of the ONU into a message format which can be identified by the ONU and convert the configuration information of the OLT into a message format which can be identified by the OLT.

Outline

The '982 Patent

Key Points

- The '982 Patent Invention
- Legal Background
 - The Petition Must Be Specific; The Reply Cannot Raise New Grounds
- Grounds 1 and 2 (Bernstein)
 - The Petition Failed To Address Every Claim Element
- Grounds 3 and 4 (Tsuge)
 - The Petition Failed to Address Every Claim Element

The Petition Must Be Specific

§ 42.104 Content of petition.

In addition to the requirements of §§ 42.6, 42.8, 42.22, and 42.24, the petition must set forth:

...

(b) *Identification of challenge*. Provide a statement of the precise relief requested for each claim challenged. The statement must identify the following:

(1) The claim;

...

(4) How the construed claim is unpatentable under the statutory grounds identified in paragraph (b)(2) of this section. The petition must specify where each element of the claim is found in the prior art patents or printed publications relied upon; and

The Petition Must Be Specific

United States Court of Appeals for the Federal Circuit

HENNY PENNY CORPORATION,
Appellant

v.

FRYMASTER LLC,
Appellee

2018-1596

Appeal from the United States Patent and Trademark
Office, Patent Trial and Appeal Board in No. IPR2016-
01435.

Decided: September 12, 2019

its petition. Because of the expedited nature of IPR proceedings, “[i]t is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify ‘with particularity’ the ‘evidence that supports the grounds for the challenge to each claim.’” *Id.* at 1369 (quoting 35 U.S.C. § 312(a)(3)). Accordingly, an IPR petitioner may not raise in reply “an entirely new rationale” for why a claim would have been obvious. *See id.* at 1370; 37 C.F.R. § 42.23(b). But that is what HPC did

Henny Penny Corp. v. Frymaster LLC, 938 F.3d 1324, 1330 (Fed. Cir. 2019)

The Petition Must Be Specific

United States Court of Appeals for the Federal Circuit

COREPHOTONICS, LTD.,
Appellant

v.

APPLE INC.,
Appellee

2022-1340, 2022-1341

Appeals from the United States Patent and Trademark
Office, Patent Trial and Appeal Board in Nos. IPR2020-
00487, IPR2020-00860.

COREPHOTONICS, LTD.,
Appellant

v.

APPLE INC.,
Appellee

2022-1455, 2022-1456

1367 (Fed. Cir. 2015). “It is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial petition identify ‘with particularity’ the ‘evidence that supports the grounds for the challenge to each claim.’” *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369 (Fed. Cir. 2016) (quoting 35 U.S.C. § 312(a)(3)). “Unlike district court litigation – where parties have greater freedom to revise and develop their arguments over time and in response to newly discovered material – the expedited nature of IPRs bring with it an obligation for petitioners to make their case in their petition to institute.” *Id.* Given these “strict . . . requirements,” *id.*, the Board is not permitted to entertain “[s]hifting arguments” but must, instead, reject any “entirely new theory of *prima facie* obviousness absent from the petition,” if the petitioner attempts to inject such a theory into the proceeding post-petition, *Wasica Fin. GmbH v.*

Corephotonics, Ltd. v. Apple Inc., 84 F.4th 990, 1001-02 (Fed. Cir. 2023)

Outline

The '982 Patent

Key Points

- The '982 Patent Invention
- Legal Background
 - The Petition Must Be Specific; The Reply Cannot Raise New Grounds
- **Grounds 1 and 2 (Bernstein)**
 - **The Petition Failed To Address Every Claim Element**
- Grounds 3 and 4 (Tsuge)
 - The Petition Failed to Address Every Claim Element

Grounds 1 and 2 (Bernstein) Fail

- **The Petition Fails to Teach or Suggest :**
 - **“a service auto-configuration” (claims 1, 6)**
 - **“analyzing” a configuration file (claims 1, 5, 6, 11)**
 - **configuration information relates to services opened by the ONU (claims 2, 8, and 9)**

The Petition Fails To Analyze The Claim

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHARTER COMMUNICATIONS, INC.,

Petitioner,

v.

LARNACH TECHNOLOGIES LTD.,
Patent Owner.

IPR2024-XXXXX
U.S. Patent No. 9,287,982

PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. §312 AND 37 C.F.R. §42.104

(Claims 1-11)

1. A service auto-configuration method of a DOCSIS Provisioning Of EPON (DPoE) system, comprising:

To the extent the preamble is limiting, Bernstein discloses this element. Bernstein discloses “A Data Over Cable Service Interface Specifications (DOCSIS) Passive Optical Network (PON) system[.]” EX1005, ¶59 (citing EX1006, Abstract). Bernstein also explains that his system is implemented on an “Ethernet PON (EPON).” *Id.*, (citing EX1006, 2:2-5, 2:44-3:36). In Figure 3, Bernstein depicts a DPoE system comprising OLT 18 including DPON 40 and Cable Modem Proxy 60 (a virtual cable modem.) *Id.* (citing EX1006, 3:37-46).

Pet. at 24

6. A service auto-configuration network of a DOCSIS Provisioning Of EPON (DPoE) system, comprising

Bernstein discloses “A service auto-configuration network of a DOCSIS Provisioning Of EPON (DPoE) system.” See element 1[preamble]: EX1005, ¶113.

Pet. at 50

The Petition Fails To Analyze The Claim

1. A service auto-configuration method of a DOCSIS Provisioning Of EPON (DPOE) system, comprising:

EX1001 at 8:33-34

As the Board recognized in its Institution Decision, the Petition is silent about a “service auto-configuration” method or network. Paper 12 at 32 (“Petitioner does not appear to have addressed how Bernstein teaches or suggests ‘a service auto-configuration method.’”); *also* EX2008 ¶¶40-42. Indeed, none of the cited sections of Bernstein discuss “service auto-configuration.” EX2008 ¶¶40-42. For example,

POR at 23

Petitioner continues to argue that the entirety of preambles to claims 1 and 6 are not limiting, despite ***agreeing*** in the underlying litigation that the entire preamble is, in fact, limiting. *Iarnach Techs. Ltd. v. Charter Comms Inc.*, No. 2:24-

PO Sur-Reply at 5

POR at 20-24; PO Sur-Reply at 5-8

Claim Construction Must Be Consistent

Director, PTABDecision_Review@uspto.gov
571.272.7822

Paper 20
Date: November 3, 2025

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE OFFICE OF THE UNDER SECRETARY OF COMMERCE
FOR INTELLECTUAL PROPERTY AND DIRECTOR OF THE
UNITED STATES PATENT AND TRADEMARK OFFICE

REVVO TECHNOLOGIES, INC.,
Petitioner,

v.

CEREBRUM SENSOR TECHNOLOGIES, INC.,
Patent Owner.

IPR2025-00632
Patent 11,835,421 B2

Before JOHN A. SQUIRES, *Under Secretary of Commerce for Intellectual
Property and Director of the United States Patent and Trademark Office.*

ORDER

Vacating the Decision Granting Institution, and
Remanding to the Board for Further Proceedings
after *Sua Sponte* Director Review

The Board’s claim construction rules are designed to ensure that the Board correctly construes claim terms and to minimize inconsistency in claim construction between forums. *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340, 51,349 (Oct. 11, 2018). To that end, the rules discourage petitioners from seeking broader constructions at the Board to support a patentability challenge while seeking narrower constructions in litigation to avoid infringement liability. *See id.* at 51,350. As the Office explained when it changed the claim construction standard used in *inter partes* reviews and post-grant reviews to match the standard used in litigation, “[petitioners] will have less flexibility to advance inconsistent arguments about claim scope, and will instead be required to choose a single claim construction that best captures the true meaning of the patent claim.” *Id.* That is not the case here, however, as petitioners continue to propose different claim constructions in the two forums.

Revvo Technologies, Inc. v. Cerebrum Sensor Technologies, Inc., IPR2025-00632, Paper 20 at 4-5 (P.T.A.B. Nov. 3, 2025) (Precedential Order from Director Squires)

POR at 20-24; PO Sur-Reply at 5-8

Claim Construction Must Be Consistent

- Petitioner now argues that “service auto-configuration” has three characteristics:
 1. configuration by the DPOE system of both the ONU and OLT at the same time;
 2. using a configuration file that includes configuration information of both the ONU and OLT; and,
 3. configuration of the ONU and OLT occurs during ONU initialization.

Reply at 3; PO Sur-reply at 6-7.

- Petitioner’s construction attempts to improperly read this element out of the claim by arguing that it is “already reflected in the bodies of both Claims 1 and 6.”

See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005). “

Petitioner Misrepresents Dr. Litvin

Petitioner misrepresents Dr. Litvin to argue Patent Owner raised a claim construction issue in Response:

42. There is nothing in these disclosures that describes, for example, the automatic configuration of the OLT and ONU, as the '982 Patent discusses. *See* '982 Patent 8:19-31. A POSITA would not understand the cited disclosure in Bernstein to render the preamble of claims 1 and 6 obvious.

61. There is nothing in these cited disclosures that describes, for example, the automatic configuration of the OLT and ONU, as the '982 Patent discusses. *See* EX1001, 8:19-31. A POSITA would not understand the cited disclosure in Bernstein to render the preamble of claims 1 and 6 obvious.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHARTER COMMUNICATIONS, INC.
Petitioner,

v.

IARNACH TECHNOLOGIES, INC.,
Patent Owner.

Case IPR2024-01287
Patent 9,287,982

DECLARATION OF KERRY LITVIN IN SUPPORT OF PATENT
OWNER'S RESPONSE TO PETITION FOR INTER PARTES REVIEW OF
U.S. PATENT NO. 9,287,982

Mail Stop "PATENT BOARD"
Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Claim Construction Must Be Consistent

In the District Court, Petitioner argued only that the Preamble was limiting, not that it required further construction:

“service auto-configuration method for a DOCSIS Provisioning of EPON (DPoE) System”	982 patent, claims 1, 6	Defendants	Preamble as limiting.	DOCSIS Provisioning of EPON, MAC and Upper Layer Protocols Interface Specification, DPoE-SP-MULPIv2.0-114-230322 at, e.g., 74-79. (CHARTER00380424-0429)
				Dr. George Rouskas may provide opinions regarding how a person of ordinary skill in the art would understand this claim term, including technical background and state of the art concerning the claim term and what one of ordinary skill in the art would understand the claim term to mean in view of the knowledge in the field, the patent specifications, the prosecution histories, the claim language, and/or the extrinsic evidence.

EX2009 at 3-4.

Grounds 1 and 2 (Bernstein) Fail

- **The Petition Fails to Teach or Suggest:**
 - “a service auto-configuration” (claims 1, 6)
 - “analyzing” a configuration file (claims 1, 5, 6, 11)
 - configuration information relates to services opened by the ONU (claims 2, 8, and 9)

Analyzing a configuration file (claims 1, 5, 6, 11)

the DPOE system analyzing the acquired configuration file, and obtaining both the configuration information of the ONU and the configuration information of the OLT; and

EX1001 Claim 1 at 8:41-44

wherein, when analyzing the acquired configuration file, the DPOE system further converts the configuration information of the ONU into a message format which can be identified by the ONU, and converts the configuration information of the OLT into a message format which can be identified by the OLT.

EX1001 Claim 1 at 8:52-57

the analyzing unit is configured to analyze the acquired configuration file and obtain both the configuration information of the ONU and the configuration information of the OLT; and

EX1001 Claim 4/5 at 9:13-17

5. The system according to claim 4, wherein, the analyzing unit is further configured to, when analyzing the acquired configuration file, convert the configuration

EX1001 Claim 5 at 9:23-26

the analyzing unit is configured to analyze the acquired configuration file and obtain both the configuration information of the ONU and the configuration information of the OLT; and

EX1001 Claim 6 at 10:1-4

11. The network according to claim 6, wherein, the analyzing unit is further configured to, when analyzing the acquired configuration file, convert the configuration information of the ONU into a message format which can be identified by the ONU and convert the configuration information of the OLT into a message format which can be identified by the OLT.

EX1001 Claim 11 at 10:34-41

Analyzing Is Not Converting

1. A service auto-configuration method of a DOCSIS Provisioning Of EPON (DPOE) system, comprising: the DPOE system acquiring a configuration file from a back-office management system, wherein the configuration file comprises both configuration information of an optical network unit (ONU) and configuration information of an optical line terminal (OLT) in the DPOE system;

the DPOE system analyzing the acquired configuration file, and obtaining both the configuration information of the ONU and the configuration information of the OLT; and

the DPOE system configuring the OLT locally according to the configuration information of the OLT and meanwhile configuring the ONU according to the configuration information of the ONU via a management channel between the OLT and the ONU;

wherein, the method is performed in a process of ONU initialization; and

wherein, when analyzing the acquired configuration file, the DPOE system further converts the configuration information of the ONU into a message format which can be identified by the ONU, and converts the configuration information of the OLT into a message format which can be identified by the OLT.

Petitioner’s Citation To Bernstein Does Not Teach Or Suggest Analyzing

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHARTER COMMUNICATIONS, INC.,

Petitioner,

v.

IARNACH TECHNOLOGIES LTD.,
Patent Owner.

IPR2024-XXXX
U.S. Patent No. 9,287,982
PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. §312 AND 37 C.F.R. §42.104

(Claims 1-11)

c. Element 1[b]

the DPoE system analyzing the acquired configuration file, and obtaining both the configuration information of the ONU and the configuration information of the OLT; and

Bernstein discloses that its DPoE system analyzes the acquired configuration file and obtains both configuration information for the ONU and configuration information for the OLT. Following downloading of the configuration file, Bernstein describes that DPON 40 includes a “DOCSIS-to-PON translator 84” that analyzes the configuration file, obtaining configuration information of both the OLT and ONU, that it then converts “into associated PON parameters 63 that can be used by the OLT 18 and ONU 24.” *Id.*, ¶66 (citing EX1006, 3:53-63).

Pat. at 28

Petition Cannot Rely On Different Embodiments Now

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHARTER COMMUNICATIONS INC.,

Petitioners

v.

IARNACH TECHNOLOGIES LIMITED,

Patent Owner

Case IPR2024-01287

Patent 9,287,982

PATENT OWNER'S SUR-REPLY
TO PETITIONER'S REPLY TO THEIR PETITION FOR
INTER PARTES REVIEW
OF U.S. PATENT NO. 9,287,982

Petitioner now points to entirely separate embodiments of Bernstein, namely figure 4 and the discussion at column 5 lines 31-32, and arguments in other parts of the Petition. Reply 8-9. Petitioner's arguments in reply are new grounds of obviousness. *Supra* §§II-III. None of these separate embodiments formed the basis of Petitioner's argument in the Petition and cannot be presented for the first time here. *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d at 1381 (“[T]he Board must base its decision on arguments that were advanced by a party, and to which the opposing party was given a chance to respond.”); *supra* §§ II-III.

PO Sur-reply at 9-10

Grounds 1 and 2 (Bernstein) Fail

- **The Petition Fails to Teach or Suggest:**
 - “a service auto-configuration” (claims 1, 6)
 - “analyzing” a configuration file (claims 1, 5, 6, 11)
 - **configuration information relates to services opened by the ONU (claims 2, 8, and 9)**

Services opened by the ONU (claims 2, 8, and 9)

2. The method according to claim 1, wherein, the configuration information of the OLT is configuration information related to services opened by the ONU.

EX1001 Claim 2 at 8:58-60

8. The network according to claim 7, wherein, the configuration information of the OLT is configuration information related to services opened by the ONU.

EX1001 Claim 8 at 10:21-23

9. The network according to claim 6, wherein, the configuration information of the OLT is configuration information related to services opened by the ONU.

EX1001 Claim 9 at 10:23-25

The Petition Fails To Analyze The Claim

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHARTER COMMUNICATIONS, INC.,

Petitioner,

v.

LARNACH TECHNOLOGIES LTD.,
Patent Owner.

IPR2024-XXXXX
U.S. Patent No. 9,287,982

PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. §312 AND 37 C.F.R. §42.104

(Claims 1-11)

2. The method according to claim 1, wherein, the configuration information of the OLT is configuration information related to services opened by the ONU.

Bernstein discloses that “the configuration information of the OLT is configuration information related to services opened by the ONU.” See element 1[c].

Pet. at 46

d. Element 1[c]

the DPoE system configuring the OLT locally according to the configuration information of the OLT

Pet. at 29-32

Outline

The '982 Patent

Key Points

- The '982 Patent Invention
- Legal Background
 - The Petition Must Be Specific; The Reply Cannot Raise New Grounds
- Grounds 1 and 2 (Bernstein)
 - The Petition Failed To Address Every Claim Element
- **Grounds 3 and 4 (Tsuge)**
 - **The Petition Failed to Address Every Claim Element**

Grounds 3 and 4 (Tsuge) Fail

- **The Petition Fails to Teach or Suggest:**
 - **“service auto-configuration method/network” (claims 1, 6)**
 - “converting configuration information for the OLT into a message format” (claims 1, 5)
 - back-office management configured to “save” a configuration file (claim 6)
 - configuration information relates to services opened by the ONU (claim 2, 8, and 9)

The Petition Fails To Analyze The Claims

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHARTER COMMUNICATIONS, INC.,

Petitioner,

v.

IARNACH TECHNOLOGIES LTD.,
Patent Owner.

IPR2024-XXXXX
U.S. Patent No. 9,287,982

PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. §312 AND 37 C.F.R. §42.104

(Claims 1-11)

a. Preamble

To the extent the preamble is limiting, as discussed herein, Tsuge discloses an auto-configuration method of a DOCSIS Provisioning Of EPON (DPoE) system. Tsuge discloses a method for provisioning DOCSIS services on ONU/OLT hardware in a “GE-PON” (*i.e.*, Gigabyte Ethernet PON), or any other type of PON. EX1005, ¶132 (citing EX1008, 6:47-55 and 14:40-15:22).

Pet. at 60

The Petition Fails To Analyze The Claims

1. A service auto-configuration method of a DOCSIS Provisioning Of EPON (DPOE) system, comprising:

EX1001 at 8:33-34

As the Board recognized in its Institution Decision, the Petition is silent about a “service auto-configuration” method or network. Paper 12 at 32 (“Petitioner does not appear to have addressed how Bernstein teaches or suggests ‘a service auto-configuration method.’”); *also* EX2008 ¶¶40-42. Indeed, none of the cited sections of Bernstein discuss “service auto-configuration.” EX2008 ¶¶40-42. For example, POR at 23; *id.* at 31 (referring back to POR at 23)

Petitioner continues to argue that the entirety of preambles to claims 1 and 6 are not limiting, despite ***agreeing*** in the underlying litigation that the entire preamble is, in fact, limiting. *Iarnach Techs. Ltd. v. Charter Comms Inc.*, No. 2:24-

PO Sur-Reply at 5; *id.* at 11-12 (referring back to PO Sur-Reply at 5)

The Petition Fails To Analyze The Claims

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHARTER COMMUNICATIONS INC.,

Petitioners

v.

LARNACH TECHNOLOGIES LIMITED,

Patent Owner

Case IPR2024-01287
Patent 9,287,982

PATENT OWNER'S SUR-REPLY
TO PETITIONER'S REPLY TO THEIR PETITION FOR
INTER PARTES REVIEW
OF U.S. PATENT NO. 9,287,982

Petition. *See supra* § IV.A. Petitioner now argues that its citation to more than 40 lines of Tsuge with no explanation “specif[ies] where each element of the claim is found in the prior art patents or printed publications.” *See* 37 C.F.R. § 42.104(b)(2). But, as the Reply highlights, Petitioner only stated that “Tsuge discloses a method for provisioning DOCSIS services on ONU/OLT hardware in a “GE-PON” (i.e., Gigabyte Ethernet PON), or any other type of PON.” Reply at 14. There is no discussion of “auto-configuration.” As with Grounds 1 and 2,

PO Sur-Reply at 11-12

Grounds 3 and 4 (Tsuge) Fail

- **The Petition Fails to Teach or Suggest Every Element:**

- “service auto-configuration method/network” (claims 1, 6)
- “converting configuration information for the OLT into a message format” (claims 1, 5)
- back-office management configured to “save” a configuration file (claim 6)
- configuration information relates to services opened by the ONU (claim 2, 8, and 9)

Converting configuration information (Claims 1, 5)

[illegible]

1 55067 870 8

11S009287982B2

(10) Patent No.: **US 9,287,982 B2**
(45) Date of Patent: **Mar. 15, 2016**

H04J 14/0239; H04J 14/0242; H04J 14/0243;
H04J 14/0245; H04J 14/0246; H04J 14/0247;
H04J 14/025; H04J 14/0252; H04J 14/0249

6) **References Cited**
U.S. PATENT DOCUMENTS
8,023,820 B2 * 9/2011 Bernard
H04J 3/1694
398.66
(Continued)

FOREIGN PATENT DOCUMENTS

101741712	6/2010
101888575 A	11/2010

(Continued)

OTHER PUBLICATIONS

International Search Report mailed Jun. 28, 2012 in International Application No. PCT/CN2012/072633.
(Continued)

4) *Attorney, Agent, or Firm* — Plumsea Law Group, LLC

7) ABSTRACT

work includes a DPOE system, a back-office management system and an ONU; the service auto-configuration method used in the DPOE system includes an acquisition unit, an analyzing unit and a configuration unit; the service auto-configuration network includes a DPOE system, a back-office management system and an ONU; the service auto-configuration method used in the DPOE system includes an acquisition unit, an analyzing unit and a configuration unit.

configuration file from the back-office management system, wherein the configuration file includes configuration information of the ONU and configuration information of an OLT.

the DPOE system; the DPOE system analyzing the configuration file and obtaining the configuration information of the ONU and the configuration information of the OLT; configuring the OLT locally and configuring the ONU via a

management channel between the OLT and the ONU. Thus the service can be opened without performing further configuration to the OLT individually after the process of the ONU initialization is completed.

11 Claims, 3 Drawing Sheets

SW

SW: SW is present at

max. length of 1000
if max. is 1000
and 1000

Figure 1. A schematic diagram of the experimental design. The figure shows a sequence of events: a stimulus (a word) is presented, followed by a response (a word), and then a feedback (a word). The response is either correct or incorrect, and the feedback is either positive or negative. The diagram illustrates the flow of information and the timing of the response and feedback.

Charter Communications, Inc.
Charter Communications, Inc.
Technologies, Ltd.

100

DENCE

wherein, when analyzing the acquired configuration file, the DPOE system further converts the configuration information of the ONU into a message format which can be identified by the ONU, and converts the configuration information of the OLT into a message format which can be identified by the OLT.

EX1001 (Claim 1) at 8:52-57

5. The system according to claim 4, wherein, the analyzing unit is further configured to, when analyzing the acquired configuration file, convert the configuration information of the ONU into a message format which can be identified by the ONU and convert the configuration information of the OLT into a message format which can be identified by the OLT.

EX1001 (Claim 5) at 9:23-30

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

POR at 31-34; PO Sur-Reply at 12-14

The Petition Does Not Describe The Claimed Converting

Petitioner Cites Tsuge at **4:46-51**, 18:25-36:

Subsequently, the OLT receives the initial setting information of the CM by using the address information and the file name of the TFTP server obtained by the DHCP and makes initial setting corresponding to its contents to the ONU by using the protocol of the PON interval (or, reflects it to the setting of the OLT itself). For example, in the case of the PON

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

POR at 31-34; PO Sur-Reply at 12-14

US2003/0044832

United States Patent

Yamaguchi et al.

(10) Patent No.: US 8,160,448 B2
(45) Date of Patent: Apr. 17, 2012

(54) COMMUNICATION SYSTEM USING PASSIVE OPTICAL NETWORK AND PASSIVE

OPTICAL NETWORK

(75) Inventors: Munetsugu Tsuge, Fujiwara (JP);
Takashi Mura, Yokohama (JP);
Yoshinori Kato, Yokohama (JP);
Yoshio Miyamoto, Yokohama (JP);
Shinobu Goshima, Yokohama (JP)

(73) Assignee: Hitachi, Ltd., Tokyo (JP)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(d) by 285 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: 12/406,465

(22) Filed: Mar. 17, 2009

(65) Prior Publication Data
US 2009/025298 A1 Sep. 17, 2009

Related U.S. Application Data
(63) Continuation-in-part of application No. 12/147,616,
filed on Jun. 27, 2008.
(50) Foreign Application Priority Data
Oct. 17, 2007 (JP) 2007-269427
Oct. 10, 2008 (JP) 2008-253388
(51) Int. Cl. (2006.01)
H04B 10/02

(52) U.S. Cl. 398/115, 398/116, 398/74, 398/66;
398/67, 398/68, 398/69, 398/70, 398/71, 398/72, 398/73, 398/74, 398/75, 398/76, 398/77, 398/78, 398/79, 398/80, 398/81, 398/82, 398/83, 398/84, 398/85, 398/86, 398/87, 398/88, 398/89, 398/90, 398/91, 398/92, 398/93, 398/94, 398/95, 398/96, 398/97, 398/98, 398/99, 399/1, 399/2, 399/3, 399/4, 399/5, 399/6, 399/7, 399/8, 399/9, 399/10, 399/11, 399/12, 399/13, 399/14, 399/15, 399/16, 399/17, 399/18, 399/19, 399/20, 399/21, 399/22, 399/23, 399/24, 399/25, 399/26, 399/27, 399/28, 399/29, 399/30, 399/31, 399/32, 399/33, 399/34, 399/35, 399/36, 399/37, 399/38, 399/39, 399/40, 399/41, 399/42, 399/43, 399/44, 399/45, 399/46, 399/47, 399/48, 399/49, 399/50, 399/51, 399/52, 399/53, 399/54, 399/55, 399/56, 399/57, 399/58, 399/59, 399/60, 399/61, 399/62, 399/63, 399/64, 399/65, 399/66, 399/67, 399/68, 399/69, 399/70, 399/71, 399/72, 399/73, 399/74, 399/75, 399/76, 399/77, 399/78, 399/79, 399/80, 399/81, 399/82, 399/83, 399/84, 399/85, 399/86, 399/87, 399/88, 399/89, 399/90, 399/91, 399/92, 399/93, 399/94, 399/95, 399/96, 399/97, 399/98, 399/99, 400/1, 400/2, 400/3, 400/4, 400/5, 400/6, 400/7, 400/8, 400/9, 400/10, 400/11, 400/12, 400/13, 400/14, 400/15, 400/16, 400/17, 400/18, 400/19, 400/20, 400/21, 400/22, 400/23, 400/24, 400/25, 400/26, 400/27, 400/28, 400/29, 400/30, 400/31, 400/32, 400/33, 400/34, 400/35, 400/36, 400/37, 400/38, 400/39, 400/40, 400/41, 400/42, 400/43, 400/44, 400/45, 400/46, 400/47, 400/48, 400/49, 400/50, 400/51, 400/52, 400/53, 400/54, 400/55, 400/56, 400/57, 400/58, 400/59, 400/60, 400/61, 400/62, 400/63, 400/64, 400/65, 400/66, 400/67, 400/68, 400/69, 400/70, 400/71, 400/72, 400/73, 400/74, 400/75, 400/76, 400/77, 400/78, 400/79, 400/80, 400/81, 400/82, 400/83, 400/84, 400/85, 400/86, 400/87, 400/88, 400/89, 400/90, 400/91, 400/92, 400/93, 400/94, 400/95, 400/96, 400/97, 400/98, 400/99, 401/1, 401/2, 401/3, 401/4, 401/5, 401/6, 401/7, 401/8, 401/9, 401/10, 401/11, 401/12, 401/13, 401/14, 401/15, 401/16, 401/17, 401/18, 401/19, 401/20, 401/21, 401/22, 401/23, 401/24, 401/25, 401/26, 401/27, 401/28, 401/29, 401/30, 401/31, 401/32, 401/33, 401/34, 401/35, 401/36, 401/37, 401/38, 401/39, 401/40, 401/41, 401/42, 401/43, 401/44, 401/45, 401/46, 401/47, 401/48, 401/49, 401/50, 401/51, 401/52, 401/53, 401/54, 401/55, 401/56, 401/57, 401/58, 401/59, 401/60, 401/61, 401/62, 401/63, 401/64, 401/65, 401/66, 401/67, 401/68, 401/69, 401/70, 401/71, 401/72, 401/73, 401/74, 401/75, 401/76, 401/77, 401/78, 401/79, 401/80, 401/81, 401/82, 401/83, 401/84, 401/85, 401/86, 401/87, 401/88, 401/89, 401/90, 401/91, 401/92, 401/93, 401/94, 401/95, 401/96, 401/97, 401/98, 401/99, 402/1, 402/2, 402/3, 402/4, 402/5, 402/6, 402/7, 402/8, 402/9, 402/10, 402/11, 402/12, 402/13, 402/14, 402/15, 402/16, 402/17, 402/18, 402/19, 402/20, 402/21, 402/22, 402/23, 402/24, 402/25, 402/26, 402/27, 402/28, 402/29, 402/30, 402/31, 402/32, 402/33, 402/34, 402/35, 402/36, 402/37, 402/38, 402/39, 402/40, 402/41, 402/42, 402/43, 402/44, 402/45, 402/46, 402/47, 402/48, 402/49, 402/50, 402/51, 402/52, 402/53, 402/54, 402/55, 402/56, 402/57, 402/58, 402/59, 402/60, 402/61, 402/62, 402/63, 402/64, 402/65

The Petition Does Not Describe The Claimed Converting

Petitioner Cites Tsuge at 4:46-51, 18:25-36:

The OLT **101** obtains a CM setting information file corresponding to a certain ONU by the CM setting information obtaining sequence **920** shown in FIG. **9**. The setting information of the upstream communication bandwidth of the service flow corresponding to the LLID allocated to the ONU is included in the CM setting information file. Based on the DOCSIS standard, information such as continuous upstream maximum communication bandwidth, upstream maximum burst length, and upstream minimum reservation communication bandwidth is included in the upstream communication bandwidth setting. Those upstream communication bandwidth setting information is stored as setting for the LLID into the OLT by the OLT•ONU setting sequence **930** shown in FIG. **9** (step **1810**).

The Reply Asserts New Grounds

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHARTER COMMUNICATIONS, INC.,

Petitioner,

v.

IARNACH TECHNOLOGIES LTD.,
Patent Owner.

IPR2024-01287
U.S. Patent No. 9,287,982

PETITIONER'S REPLY

⁶ Sub-section 1[g] of Section VIII(C)(1) of the petition inadvertently cited an earlier usage in Tsuge of the phrase “the settings of the OLT itself” at 4:46-51 instead of the use of that phrase in Tsuge at 14:62-15:22, which is cited elsewhere in the analysis of claim 1 at element 1[c]. To be sure, the Board may consider this argument because it was explicitly made in connection with Ground 3, claim 1. In addition, this typographical error also may be corrected by the Board. *See e.g. Unified Patents, LLC v. Voice Tech Corp.*, IPR2020-0108, Papter 46 at 13, fn. 4 (P.T.A.B. December 13, 2021).

Reply at 16 n.6

The Reply Asserts New Grounds

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHARTER COMMUNICATIONS INC.,

Petitioners

v.

IARNACH TECHNOLOGIES LIMITED,

Patent Owner

Case IPR2024-01287

Patent 9,287,982

PATENT OWNER'S SUR-REPLY
TO PETITIONER'S REPLY TO THEIR PETITION FOR
INTER PARTES REVIEW
OF U.S. PATENT NO. 9,287,982

In its Reply, Petitioner relies on an entirely different, previously un-cited section of Tsuge to cover its failure to explain in the Petition how Tsuge teaches the claimed “converting.” Reply at 15-16 (citing Pet. 60, Petitioner claims it intended to cite Tsuge at column 14, line 62 to column 15 line 22 not column 4, lines 46-51. Reply at 15-16. But neither the Petition *nor Petitioner’s expert* cited 14:62-15:22 in relation to these claim elements. As with the Petitioner’s other arguments, Petitioner attempts to fabricate an excuse for the total failure of the Petition to address this element.

PO Sur-Reply at 12

Grounds 3 and 4 (Tsuge) Fail

- **The Petition Fails to Teach or Suggest Every Element:**

- “service auto-configuration method/network” (claims 1, 6)
- “converting configuration information for the OLT into a message format” (claims 1, 5)
- **back-office management configured to “save” a configuration file (claim 6)**
- configuration information relates to services opened by the ONU (claim 2, 8, and 9)

Configured To Save Configuration File (claim 6)

US09387982B2

United States Patent

Zang et al.

(12) Patent No.: **US 9,287,982 B2**
(45) Date of Patent: **Mar. 15, 2016**

(54) **DPOE SYSTEM AND SERVICE
AUTO-CONFIGURATION METHOD AND
NETWORK BASED THERON**

(57) **Inventors:** **Meiyang Zang, Shenzhen (CN); Lijuan
Yuan, Shenzhen (CN); Changlin Zhang,
Shenzhen (CN)**

(73) Assignee: **ZTE CORPORATION, Shenzhen (CN)**

(*) Notice: Subject to any disclaimer, the term of this
patent is extended under 35
U.S.C. 154(b) by 168 days.

(21) Appl. No.: **14,006,703**

(22) PCT Filed: **Mar. 20, 2012**

(86) PCT No.: **PCT/CN2012/072603**

(37) Date of Publication: **Oct. 3, 2013**

(21) Pub. No.: **WO/2013/094653**

(41) Pub. Date: **Oct. 16, 2012**

(45) **Prior Publication Data**

(50) **US 2014/0023366 A1** Jan. 23, 2014

(51) **Foreign Application Priority Data**

Apr. 13, 2011 (CN) **2011100921100**

(52) **U.S. CL.** **680/107** (2013.01); **H04L 12/04** (2013.01);
CPC **H04L 12/04** (2013.01); **H04L 1/00** (2013.01);

(53) **Int. CL.** **H04L 1/00** (2006.01); **H04L 12/04** (2013.01)

(54) **Field of Classification Search**

CPC **H04L 12/04** (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

H04L 12/04 (2013.01); **H04L 1/00** (2013.01);

(54) **DPOE SYSTEM AND SERVICE
AUTO-CONFIGURATION METHOD AND
NETWORK BASED THERON**

(57) **Inventors:** **Meiyang Zang, Shenzhen (CN); Lijuan
Yuan, Shenzhen (CN); Changlin Zhang,
Shenzhen (CN)**

(73) Assignee: **ZTE CORPORATION, Shenzhen (CN)**

(*) Notice: Subject to any disclaimer, the term of this
patent is extended under 35
U.S.C. 154(b) by 168 days.

(21) Appl. No.: **14,006,703**

(22) PCT Filed: **Mar. 20, 2012**

(86) PCT No.: **PCT/CN2012/072603**

(37) Date of Publication: **Oct. 3, 2013**

(21) Pub. No.: **WO/2013/094653**

(41) Pub. Date: **Oct. 16, 2012**

(45) **Prior Publication Data**

(50) **US 2014/0023366 A1** Jan. 23, 2014

(51) **Foreign Application Priority Data**

Apr. 13, 2011 (CN) **2011100921100**

(52) **U.S. CL.** **680/107** (2013.01); **H04L 12/04** (2013.01);
CPC **H04L 12/04** (2013.01); **H04L 1/00** (2013.01);

(53) **Int. CL.** **H04L 1/00** (2006.01); **H04L 12/04** (2013.01)

(54) **Field of Classification Search**

The Petition Does Not Describe Saving A File

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHARTER COMMUNICATIONS, INC.,

Petitioner,

v.

IARNACH TECHNOLOGIES LTD.,
Patent Owner.

IPR2024-XXXXX
U.S. Patent No. 9,287,982

PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. §312 AND 37 C.F.R. §42.104

(Claims 1-11)

FIG. 11

551				1101	1102	1103	1104
				CM IP ADDRESS	CM SETTING INFORMATION MANAGEMENT SERVER IP ADDRESS	CM SETTING INFORMATION FILE NAME	ONU INTRINSIC IDENTIFIER
				10.1.2.3	10.100.1.253	default.cm	00-11-22-33-44-55
				10.1.2.4	10.100.1.253	default.cm	00-AA-BB-CC-DD-EE
				10.1.2.129	10.100.1.253	premium.cm	00-12-34-56-78-9A
							

Pet. at 80-81 (discussing annotated Tsuge Fig. 11)

The Petition Does Not Describe Saving A File

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHARTER COMMUNICATIONS, INC.,

Petitioner,

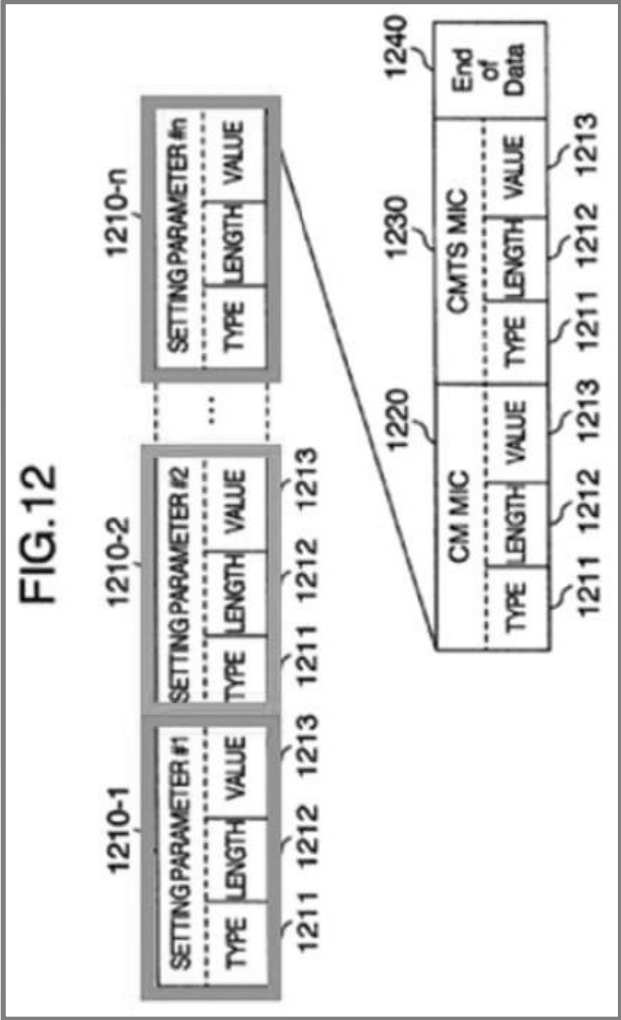
v.

IARNACH TECHNOLOGIES LTD.,
Patent Owner.

IPR2024-XXXXX
U.S. Patent No. 9,287,982

PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. §312 AND 37 C.F.R. §42.104

(Claims 1-11)



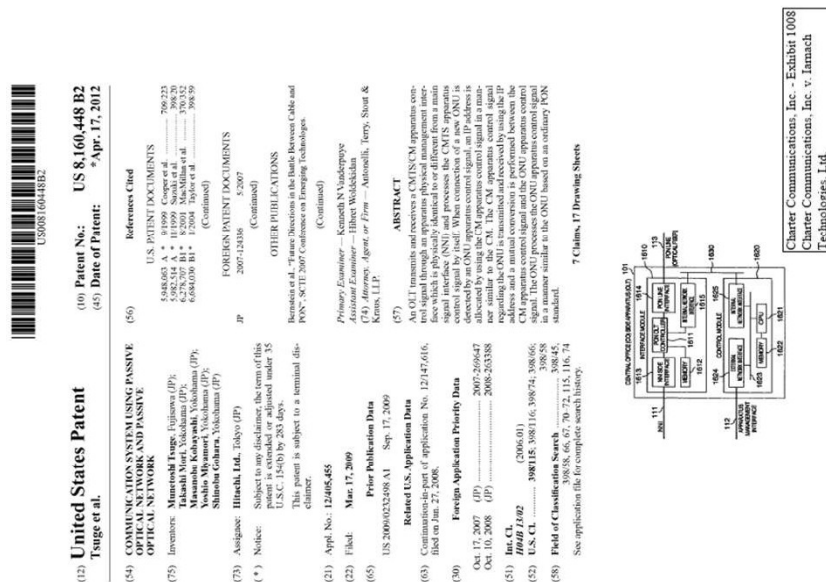
Pet. at 81-82 (discussing annotated Tsuge Fig. 12)

The Petition Does Not Describe Saving A File

The OLT 101 executes the CM setting information obtaining sequence by using the information obtained by the foregoing procedure (step 920). Specifically speaking, the CM setting information file is obtained from the CM setting information management server 263 by using the IP address of the CM setting information management server 263 and the CM setting information file name. The CM IP address which has already been obtained is used as a PON side IP address at the time when the CM setting information obtaining sequence is executed. The CM setting information obtaining sequence is executed by using the CM setting information signal 523. According to the DOCSIS standard, the sequence is executed in a form of obtaining the file by the TFTP. That is, the sequence is executed by repeating the following procedure k times (k denotes the total number of blocks in the case where the CM setting information file is divided into TFTP data blocks): a transmission of an RRQ (Read ReQuest) message to the CM setting information management server (step 921); a subsequent reception of a DATA message from the CM setting information management server (step 922); and a transmission of an ACK message to the CM setting information management server (step 923).

EX1008 (Tsuge) at 14:40-61 (cited by Pet. at 81)

POR at 37-39; PO Sur-Reply at 14-15 45



Page 1 of 33

Grounds 3 and 4 (Tsuge) Fail

- **The Petition Fails to Teach or Suggest Every Element:**
 - “service auto-configuration method/network” (claims 1, 6)
 - “converting configuration information for the OLT into a message format” (claims 1, 5)
 - back-office management configured to “save” a configuration file (claim 6)
 - **configuration information relates to services opened by the ONU (claim 2, 8, and 9)**

Services opened by the ONU (claims 2, 8, and 9)

2. The method according to claim 1, wherein, the configuration information of the OLT is configuration information related to services opened by the ONU.

EX1001 Claim 2 at 8:58-60

8. The network according to claim 7, wherein, the configuration information of the OLT is configuration information related to services opened by the ONU.

EX1001 Claim 8 at 10:21-23

9. The network according to claim 6, wherein, the configuration information of the OLT is configuration information related to services opened by the ONU.

EX1001 Claim 9 at 10:23-25

The Petition Does Not Analyze The Claim

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHARTER COMMUNICATIONS, INC.,

Petitioner,

v.

IARNACH TECHNOLOGIES LTD.,
Patent Owner.

IPR2024-XXXXX
U.S. Patent No. 9,287,982

PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. §312 AND 37 C.F.R. §42.104

(Claims 1-11)

2. Claim 2

Claim 2 is obvious over Tsuge in view of Bernstein and/or the knowledge of one of skill in the art. Tsuge discloses “the configuration information of the OLT is configuration information related to services opened by the ONU.” EX1005, ¶154; *see* element 1[c].

Pet. at 73

1[c]

the DPoE system configuring the OLT locally according to the configuration information of the OLT

Element 1[c] claim language. Pet. at ix

The Petition Does Not Analyze The Claim

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHARTER COMMUNICATIONS INC.,

Petitioners

v.

IARNACH TECHNOLOGIES LIMITED,

Patent Owner

Case IPR2024-01287
Patent 9,287,982

PATENT OWNER'S RESPONSE
TO PETITION FOR INTER PARTES REVIEW
OF U.S. PATENT NO. 9,287,982

But nothing in the Petitioner's or its expert's discussion of claim 1[c] describes services opened by the ONU. EX2008 ¶¶82-83. In fact, the only mention of the ONU in the discussions of claim 1[c] is a quote that includes a reference to "the OLT-ONU setting sequence 930" of Tsuge. Pet., at 67-68, EX1005 ¶143; EX2008 ¶¶82-84;.

POR at 40

Petitioner's Changing Arguments

A POSA would understand step 934-2 is performed locally because, as shown, "OLT Setting" is conducted on OLT 101 without outside communications. EX1005, ¶143 (citing EX1008, Fig. 9) (annotated); *see also* EX1005, ¶143 (citing EX1008, 18:25-38 ("upstream communication bandwidth setting information is stored as setting for the LLID into the OLT by the OLT-ONU setting sequence 930 shown in FIG. 9 (step 1810)[.]"), Fig. 18 (step 1810))).

Petition 67-68

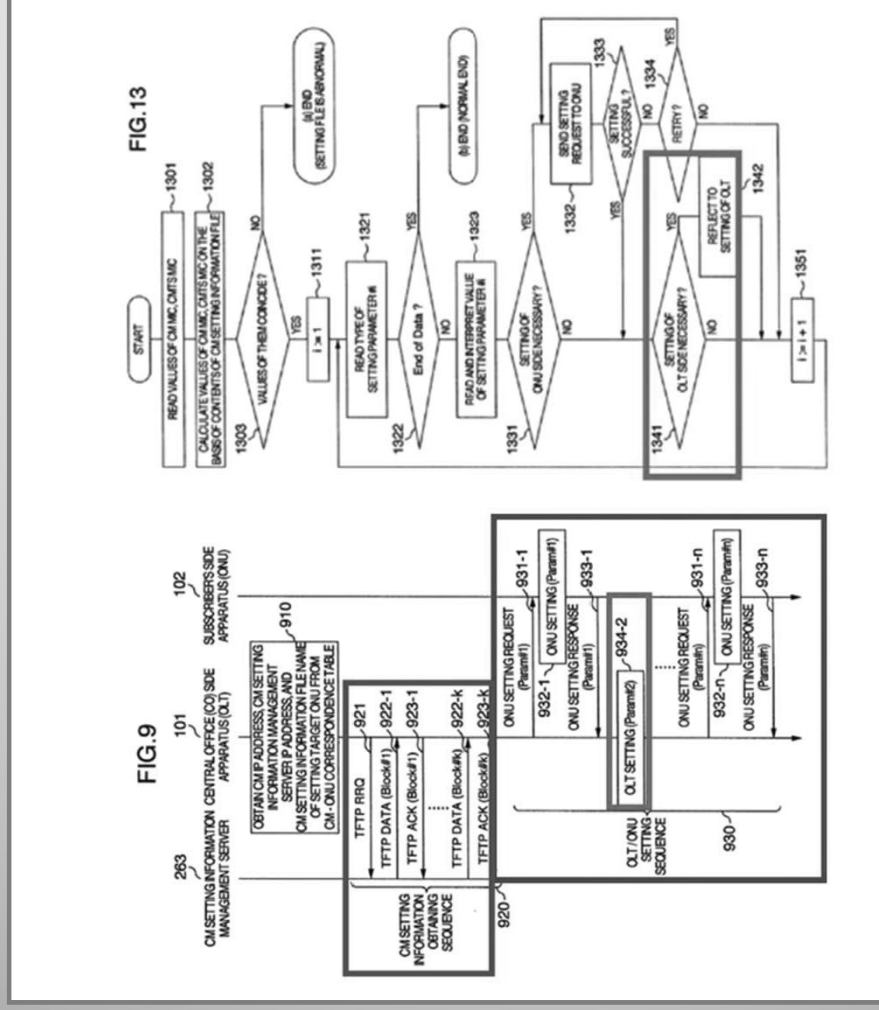
Section 1[c] of the Petition (explicitly cited in relation to claims 2, 8 and 9) explains that Tsuge's OLT configuration information relates to data services, i.e. "services opened by the ONU:"

The OLT 101 obtains a CM setting information file corresponding to a certain ONU by the CM setting information obtaining sequence 920 shown in FIG. 9. **The setting information of the upstream communication bandwidth of the service flow corresponding to the LLID allocated to the ONU is included in the CM setting information file.** Based on the DOCSIS standard, information such as continuous upstream maximum communication bandwidth, upstream maximum burst length, and upstream minimum reservation communication bandwidth is included in the upstream communication bandwidth setting. **Those upstream communication bandwidth setting information is stored as setting for the LLID into the OLT by the OLT-ONU setting sequence 930 shown in FIG. 9 (step 1810).**

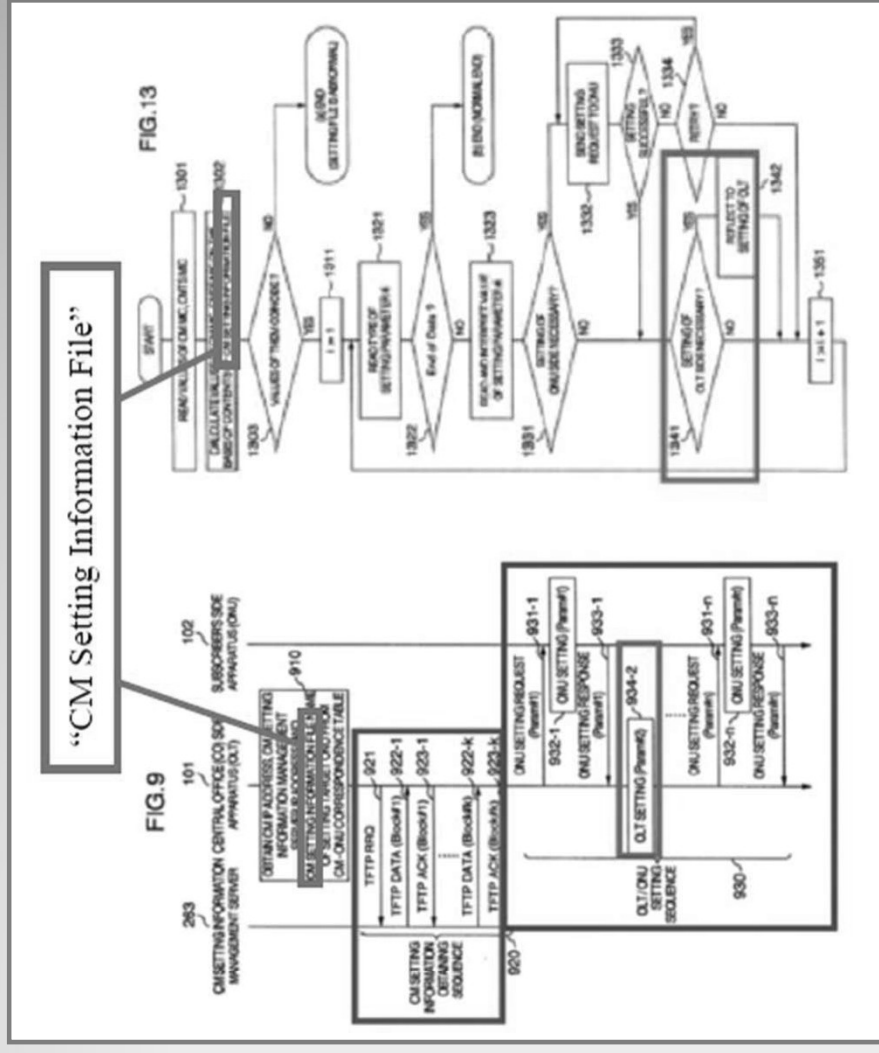
EX1008, 18:25-38 (cited at Pet. 67-68) (emphasis added); EX1016, ¶66. These "service flow" settings relating to various communication bandwidth settings "allocated to the ONU" are "OLT configuration information related to services opened by the ONU."

Reply 21-22

Petitioner's Changing Arguments



Petition 66-67



Reply 23

Petitioner’s New Arguments

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHARTER COMMUNICATIONS, INC.,

Petitioner,

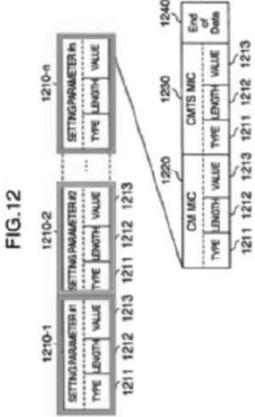
v.

IARNACH TECHNOLOGIES LTD.,
Patent Owner.

IPR2024-01287
U.S. Patent No. 9,287,982

PETITIONER’S REPLY

figuration format. EX1016, ¶67. In Fig. 12, Tsuge further describes the format of the “CM Setting Information File” as using a DOCSIS-standard TLV (Type, Length, Value) format:



Pet. at 18 and 82; EX1016, ¶68.

PO’s expert describes the same format of in his declaration, noting that “In that [DOCSIS] specification, the configuration file ‘consists of a number of configuration settings (1 per parameter) each of the form: Type Length Value.’”

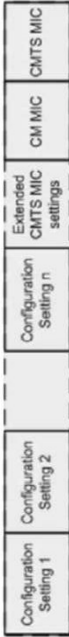


Figure 253 - Binary Configuration File Format

EX2008, ¶51 (citing EX2011 at 23). PO’s expert also acknowledged that Tsuge